SEQUENCE LISTING

(1) GENERAL INFORMATION:

   (i) APPLICANT: Chandrasegaran, Srinivasan

  (ii) TITLE OF INVENTION: METHODS FOR INACTIVATING TARGET DNA AND
        FOR DETECTING CONFORMATIONAL CHANGE IN A NUCLEIC ACID

  (iii) NUMBER OF SEQUENCES: 31

  (iv) CORRESPONDENCE ADDRESS:
      (A) ADDRESSEE: CUSHMAN DARBY & CUSHMAN
      (B) STREET: 1100 NEW YORK AVENUE, N.W., NINTH FLOOR, EAST
          TOWER
      (C) CITY: WASHINGTON
      (D) STATE: DC
      (E) COUNTRY: USA
      (F) ZIP: 2005-3918

  (v) COMPUTER READABLE FORM:
      (A) MEDIUM TYPE: Floppy disk
      (B) COMPUTER: IBM PC compatible
      (C) OPERATING SYSTEM: PC-DOS/MS-DOS
      (D) SOFTWARE: PatentIn Release #1.0, Version #1.25

  (vi) CURRENT APPLICATION DATA:
      (A) APPLICATION NUMBER: US 09/281,792
      (B) FILING DATE: 31-MAR-1999
      (C) CLASSIFICATION:

  (viii) ATTORNEY/AGENT INFORMATION:
      (A) NAME: Kokulis, Paul N
      (B) REGISTRATION NUMBER: 16,773
      (C) REFERENCE/DOCKET NUMBER: PNK/4130/216443/ASH

  (ix) TELECOMMUNICATION INFORMATION:
      (A) TELEPHONE: 202-861-3000
      (B) TELEFAX: 202-822-0944
      (C) TELEX: 6714627 CUSH

(2) INFORMATION FOR SEQ ID NO:1:

  (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 23 amino acids
      (B) TYPE: amino acid
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

  (ii) MOLECULE TYPE: peptide

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

Tyr Xaa Cys Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu
1   5   10   15

```
        Xaa Xaa His Xaa Xaa Xaa His
                 20


(2) INFORMATION FOR SEQ ID NO:2:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 24 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide




    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

    Tyr Xaa Cys Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu
    1               5                   10                  15


        Xaa Xaa His Xaa Xaa Xaa Xaa His
                 20

(2) INFORMATION FOR SEQ ID NO:3:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 25 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide




    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

    Tyr Xaa Cys Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu
    1               5                   10                  15


        Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His
                 20                  25

(2) INFORMATION FOR SEQ ID NO:4:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 24 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide




    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

    Tyr Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa
    1           5                   10                  15
```

```
Leu Xaa Xaa His Xaa Xaa Xaa His
          20
```

(2) INFORMATION FOR SEQ ID NO:5:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 25 amino acids
       (B) TYPE: amino acid
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

```
Tyr Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa
1               5                   10                  15

Leu Xaa Xaa His Xaa Xaa Xaa Xaa His
          20                  25
```

(2) INFORMATION FOR SEQ ID NO:6:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 26 amino acids
       (B) TYPE: amino acid
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

```
Tyr Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa
1               5                   10                  15

Leu Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His
          20                  25
```

(2) INFORMATION FOR SEQ ID NO:7:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 25 amino acids
       (B) TYPE: amino acid
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

```
Tyr Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa
1               5                   10                  15
```

```
      Xaa Leu Xaa Xaa His Xaa Xaa Xaa His
              20                  25


(2) INFORMATION FOR SEQ ID NO:8:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 26 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide




    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

    Tyr Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa
    1               5                   10                  15

    Xaa Leu Xaa Xaa His Xaa Xaa Xaa Xaa His
              20                  25


(2) INFORMATION FOR SEQ ID NO:9:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 27 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide




    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

    Tyr Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa
    1               5                   10                  15

    Xaa Leu Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His
              20                  25


(2) INFORMATION FOR SEQ ID NO:10:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 23 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide




    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

    Phe Xaa Cys Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu
    1               5                   10                  15
```

```
        Xaa Xaa His Xaa Xaa Xaa His
                  20


(2)  INFORMATION FOR SEQ ID NO:11:

     (i)  SEQUENCE CHARACTERISTICS:
          (A)  LENGTH: 24 amino acids
          (B)  TYPE: amino acid
          (C)  STRANDEDNESS: single
          (D)  TOPOLOGY: linear

     (ii) MOLECULE TYPE: peptide



     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

     Phe Xaa Cys Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu
     1                   5                   10                  15

        Xaa Xaa His Xaa Xaa Xaa Xaa His
                  20


(2)  INFORMATION FOR SEQ ID NO:12:

     (i)  SEQUENCE CHARACTERISTICS:
          (A)  LENGTH: 25 amino acids
          (B)  TYPE: amino acid
          (C)  STRANDEDNESS: single
          (D)  TOPOLOGY: linear

     (ii) MOLECULE TYPE: peptide



     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

     Phe Xaa Cys Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa Leu
     1                   5                   10                  15

        Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His
                  20                  25


(2)  INFORMATION FOR SEQ ID NO:13:

     (i)  SEQUENCE CHARACTERISTICS:
          (A)  LENGTH: 24 amino acids
          (B)  TYPE: amino acid
          (C)  STRANDEDNESS: single
          (D)  TOPOLOGY: linear

     (ii) MOLECULE TYPE: peptide



     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

     Phe Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa
     1                   5                   10                  15
```

```
        Leu Xaa Xaa His Xaa Xaa Xaa His
                20

(2)  INFORMATION FOR SEQ ID NO:14:

     (i)  SEQUENCE CHARACTERISTICS:
          (A)  LENGTH: 25 amino acids
          (B)  TYPE: amino acid
          (C)  STRANDEDNESS: single
          (D)  TOPOLOGY: linear

    (ii)  MOLECULE TYPE: peptide



    (xi)  SEQUENCE DESCRIPTION: SEQ ID NO:14:

     Phe Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa
     1               5                   10                  15

     Leu Xaa Xaa His Xaa Xaa Xaa Xaa His
               20                  25

(2)  INFORMATION FOR SEQ ID NO:15:

     (i)  SEQUENCE CHARACTERISTICS:
          (A)  LENGTH: 26 amino acids
          (B)  TYPE: amino acid
          (C)  STRANDEDNESS: single
          (D)  TOPOLOGY: linear

    (ii)  MOLECULE TYPE: peptide



    (xi)  SEQUENCE DESCRIPTION: SEQ ID NO:15:

     Phe Xaa Cys Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa Xaa
     1               5                   10                  15

     Leu Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His
               20                  25

(2)  INFORMATION FOR SEQ ID NO:16:

     (i)  SEQUENCE CHARACTERISTICS:
          (A)  LENGTH: 25 amino acids
          (B)  TYPE: amino acid
          (C)  STRANDEDNESS: single
          (D)  TOPOLOGY: linear

    (ii)  MOLECULE TYPE: peptide



    (xi)  SEQUENCE DESCRIPTION: SEQ ID NO:16:

     Phe Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa
     1               5                   10                  15
```

Xaa Leu Xaa Xaa His Xaa Xaa Xaa His
            20   25

(2) INFORMATION FOR SEQ ID NO:17:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 26 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

    Phe Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa
    1   5   10   15

    Xaa Leu Xaa Xaa His Xaa Xaa Xaa Xaa His
                20   25

(2) INFORMATION FOR SEQ ID NO:18:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 27 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

    Phe Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Phe Xaa Xaa Xaa Xaa
    1   5   10   15

    Xaa Leu Xaa Xaa His Xaa Xaa Xaa Xaa Xaa His
                20   25

(2) INFORMATION FOR SEQ ID NO:19:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 23 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: DNA (genomic)

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

CCCCTGAAGG AGATATACAT ATG   23

(2) INFORMATION FOR SEQ ID NO:20:

(i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 25 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (ii) MOLECULE TYPE: DNA (genomic)

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GGACTAGTCC CTTCTTATTC TGGTG   25

(2) INFORMATION FOR SEQ ID NO:21:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 15 amino acids
            (B) TYPE: amino acid
            (C) STRANDEDNESS: single
            (D) TOPOLOGY: linear

        (ii) MOLECULE TYPE: peptide

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

        Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        1   5   10   15

(2) INFORMATION FOR SEQ ID NO:22:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 14 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (ii) MOLECULE TYPE: DNA (genomic)

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

CTGACGGGGG CCAA   14

(2) INFORMATION FOR SEQ ID NO:23:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 15 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear

        (ii) MOLECULE TYPE: DNA (genomic)

        (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

TGCCCCCGGT TGATC

(2) INFORMATION FOR SEQ ID NO:24:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 24 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: DNA (genomic)

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

CTAGACGGGG GAGGCGGCAG TCAA   24

(2) INFORMATION FOR SEQ ID NO:25:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 24 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: DNA (genomic)

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

TGCCCCCTCC GCCGTCAGTT GATC   24

(2) INFORMATION FOR SEQ ID NO:26:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

    Gly Gly Gly Gly Ser
    1   5

(2) INFORMATION FOR SEQ ID NO:27:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 39 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

CTAGACGGGG GAGGCGGCAG TGGAGGTGGC GGATCACAA   39

(2) INFORMATION FOR SEQ ID NO:28:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 39 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: DNA (genomic)

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

TGCCCCCTCC GCCGTCACCT CCACCGCCTA GTGTTGATC   39

(2) INFORMATION FOR SEQ ID NO:29:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10 amino acids
        (B) TYPE: amino acid
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: peptide

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

    Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
    1   5   10

(2) INFORMATION FOR SEQ ID NO:30:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 17 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (ii) MOLECULE TYPE: DNA (genomic)

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

CTCCTGAGGA GAAGTCT   17

(2) INFORMATION FOR SEQ ID NO:31:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 17 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double

(D) TOPOLOGY: linear

     (ii) MOLECULE TYPE: DNA (genomic)

     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

CTCCTGTGGA GAAGTCT   17